

LISTING OF CLAIMS:

1. (as amended) A structure used to raise persons by use of air jets, comprising:

a flight position (3;5);

a jet generating device (1) associated with the flight position and generating a vertical air jet, the jet generating device comprising i) a suction-and-delivery conduit (4) having a suction inlet and a delivery outlet, the delivery outlet vertically arranged and ending in proximity of the flight position (3;5), and ii) a variable pitch propeller, the propeller driven by an electric motor machine powered from an electric energy supply source, the propeller located inside said suction-and-delivery conduit(4), the propeller drawing air into the suction inlet, generating a vertically upward directed air jet, and discharging the air jet from the delivery outlet;

a support structure (2) supporting the flight position and the jet generating device;

one of an elastic membrane and net (3) provided at the flight position (3; 5) and arranged above the delivery outlet, said one of the elastic membrane and the net being sufficiently permeable to air to permit passage of the air jet;

an inverter connected between the electric motor and the electric energy supply source, said inverter configured to

vary a frequency of electric current supplied to the electric motor; and

a balance (7) for determining a weight of a person to be raised over the flight position by the air jet discharged from the delivery outlet, the balance electronically generating an electric signal proportional to the determined weight, said electric signal connected to control the inverter to modify the frequency of the electric current supplied to the electric motor, thereby reaching a maximum number of rpm of the variable pitch propeller (6) for the determined weight of the person, corresponding to a suitable air jet to raise the person up to a maximum pre-set height.

2. (as amended) A structure according to claim 1, further comprising:

an electronic regulation system connected to adjust blade inclination of the variable pitch propeller (6), and

wherein said electric signal is further connected to the electronic regulation system to vary the pitch of the variable pitch propeller (6) and thereby modify an air flow rate by the concurrent action of the inverter and of the electronic regulation system adjusting the blade inclination of the variable pitch propeller (6).

3. (as amended) A structure according to claim 2, wherein the value of said maximum preset height is in the interval 2.5-3 meters.

4. (as amended) A structure according to claim 1, wherein the balance (7) comprises a central unit forming a connector, the connector being connected to an alphanumeric display located inside a control room (14).

5. (as amended) A structure according to claim 4, further comprising:

sensors connected to the inverter, and

a decoder associated with the electric motor,

wherein the sensors detect air flow velocity, and in the event of an excessive deviation of an effective value from one of a nominal air velocity value and a desired air velocity value, the sensors cause, through the inverter, a controlled slowing down of propeller (6) angular velocity, by the adjustment of the frequency of the electric current supplied to the electric motor, said nominal air velocity value being determined based on the electric signal provided by the balance (7).

6. (as amended) A structure according to claim 1, further comprising:

means for storing component usage time of and for storing the statistical information concerning component failures and potential component operation anomalies.

7. (as amended) A structure according to claim 1, further comprising:

injury preventing means(5) surrounding the one of the elastic membrane and net.

8. (as amended) A structure according to claim 1, comprising:

plural of said flight position, wherein the plural flight positions (3; 5) are distanced from each other to a sufficient degree to exclude contacts among persons at each flight position; and

spectators stands (13) with parapets distanced from the flight positions to prevent impacts by the persons at each flight position.

9. (as amended) A structure according to claim 1, wherein the structure comprises plural modules, each module comprising plural flight positions (3; 5) and respective jet generating devices (1), each module including:

- N flight positions (1; 3; 5);

- N balances (7), each balance associated with a corresponding one of the N flight positions; and

- 2 x N boxes (12 ; 12').

10. (as amended) A structure according to claim 9, wherein each module further comprises:

- a stand separating one module from another module;
- a respective control room (14), with an alphanumeric display for monitoring the operation of the module and for surveillance of the module;

- a cash desk (10) with an entry ticket dispenser; and
- an enveloping screen (11) for projections in three dimensions (3D).

11. (as amended) A structure according to claim 1, further comprising an underground basin made of reinforced concrete, wherein the jet generating device (1) is inside the basin.

12. (as amended) A structure according to claim 1, wherein the flight position, the jet generating device, the support structure, the inverter, and the balance are disassembly from each other .

13. (as amended) A structure according to claim 1, wherein,

the electric motor comprises a drive shaft, and a joint connects the drive shaft to the variable pitch propeller, and

during operation, between operations of raising different persons at the flight position, the motor remain in rotation at a minimum predefined rpm.

14. (as amended) A structure according to claim 1, wherein,

during initial operation, an air velocity of the generated vertical air jet is progressively increased until the person has reached a maximum flight height,

the progressive increase in the air velocity being performed by gradually increasing the rpm of the propeller (6), starting from a minimum predefined rpm, by simultaneously varying the propeller pitch (6) and the frequency of the current through the inverter; wherein, moreover, said maximum flight height is determined by processing the electric signal provided by said balance (7).

15. (as amended) A structure according to claim 1, wherein, during final operation, the inverter progressively reduces the rpm of the motor to a minimum predefined rpm by

varying the frequency of the electric current supplied to the motor.